REMARKS

Claims 1-18 and 20 are pending in the application.

Claims 1-12 are allowed

Claims 13-18 and 20 were rejected.

Claims 9, 13 and 20 are amended herein.

New claim 19 is added

I. Claim Objections

The Office Action noted that claim 19 was missing from the claim set presented for examination and required correction. New claim 19 has been added to address an additional limitation for amended independent claim 13, from which new claim 19 depends. With this change, the basis for the objection is believed overcome.

II. 35 USC §103 Claim Rejections

In the Office Action, claims 13-18 and 20 were rejected under 35 USC §103(a) as being unpatentable over Costas (U.S. Patent No. 4,349,915). Applicant respectfully traverses that rejection and requests reconsideration by the Examiner.

The invention claimed here is addressed to the problem of multipath signals in a wireless communications path, and particularly to a method for distinguishing reflected signals on the transmission path from a signal traveling directly between the transmitter and the receiver – *i.e.*, the separation of multipath signals from directly transmitted signals.

According to the method of the invention, a time value is associated with each information packet in a stream of such packets constituted as a signal to be transmitted from a transmitter to a receiver via the wireless communications path, such time values being transmitted to the receiver with the associated packets. At the receiver, an initially received

packet of the packet stream is designated as a non-reflected packet and stored in a memory. In one embodiment, that initially received packet designated as non-reflected will be the first packet received with a given time value. As subsequent packets are received at the receiver, the time values thereof are compared to the time values of packets that have previously identified and stored as non-reflected packets.

For a given packet among those subsequently received packets, if the time value comparison determines that the time value of the given packet is different from the time values of previously stored non-reflected packets, the given packet is designated as non-reflected and stored in the memory. On the other hand, if the time value comparison for the given packet reveals that its time value is the same as that of a previously stored non-reflected packet, the given packet is designated as a reflected packet. According to various embodiments of the invention, the given packet designated as being reflected may be combined with the stored non-reflected packet having the same time value in a manner to improve the intelligibility of the received packet, or the reflected packet may be discarded or destroyed.

In a further embodiment of the invention, a spatial value is transmitted with each transmitted packet. At the receiver, a comparison between the spatial values associated with successively received non-reflected packets is processed to obtain a measure of relative movement between the transmitter and the receiver.

While the Costas reference may be said to be generally addressed to the problem of multipath in an RF environment, the approach of that reference is singularly different from that of the invention here. The essential teaching of Costas is a methodology for discriminating multipath signals based on the transmission of originating packets at multiple frequencies (using a frequency hopping approach) and correcting at the receiver for doppler shifts in the

received signals. In particular, the methodology of Costas relies on a time pattern created at the receiver in relation to the received doppler-shifted frequencies, from which the doppler shifts can assertedly be determined. Applicant believes it clear that there is no analog or any other relationship between the "time pattern" created at the receiver by the methodology of Costas and the association and transmission of a time value with each packet transmitted according to the invention here. Moreover, Applicant respectfully suggests that nothing in the teaching of Costas could reasonably be construed to show or suggest that feature (time value associated and transmitted with packets) of the invention.

Applicant recognizes, however that, unlike the allowed independent claims which clearly include a limitation directed to the described distinguishing feature of the invention, that distinction may be less clearly set out independent claim 13. Accordingly, Applicant has determined to amend independent claim13 so as to more clearly address that distinction. It is noted that the amendment to claim 13 also removes the limitation regarding transmission of spatial values, which limitation is plainly not required to distinguish over Costas, and moved that limitation to new dependent claim 19. As so amended, Applicant submits that the independent claim 13 now clearly distinguishes over Costas, and all of the remaining rejected claims depend, either directly or indirectly from that independent claim. Withdrawal of the §103 rejection of claims 13-18 and 20 is accordingly respectfully requested.

Finally, Applicant notes that allowed dependent claim 9 has been amended to insert an inadvertently omitted word, and believes that the omitted term is apparent on the face of the claim.

III. Conclusion

Having fully addressed the Examiner's objections and rejections herein, it is believed that, in view of the preceding amendments and remarks, this application now stands in condition for allowance. Such allowance is respectfully requested.

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Please charge any fees due in respect to this amendment to Deposit Account No. 50-1944.

Respectfully submitted,

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Dated: March 3, 2005

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I hereby certify that this Response to Office Action is being deposited with the United States Postal Service as First Class Mail, postage prepaid, in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313 on March 3, 2005.

By: _____
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